CLAIMS

What is claimed is:

1. A method for maintaining a quantity of a magneto-rheological substance in a substantially static position in conjunction with any mechanism, said method comprising the steps of:

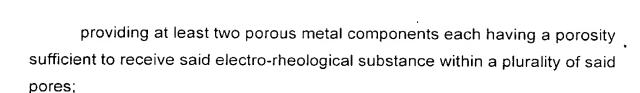
providing at least one porous metal component having a porosity sufficient to receive said magneto-rheological substance within a plurality of said pores;

impregnating said at least one porous metal component with said magneto-rheological substance; and

resisting the movement of said magneto-rheological substance relative to said component due to outside forces acting on said magneto-rheological substance by applying a constant minimal modulating charge to said magneto-rheological substance and said at least one porous metal component.

- 2. The method of claim 1, wherein said mechanism consists of at least two rotating components.
- 3. The method of claim 1, wherein said step of impregnating said at least one porous metal component with said magneto-rheological substance consists of removing air from the pores of said at least one porous metal component and replacing the air with said magneto-rheological substance.
- 4. A method for accelerating the binding properties of an electrorheological substance in any mechanism, said method comprising the steps of:

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impregnating said at least two porous metal components with said electro-rheological substance;

applying a constant minimal modulating charge to said electrorheological substance and said at least two porous metal components; and

increasing said charge applied to said electro-rheological substance such that the binding characteristics of said electro-rheological substance are activated.

- 5. The method of claim 4, wherein said constant minimal modulating charge is not great enough to activate the binding characteristics of said electro-rheological substance.
- 6. The method of claim 5, wherein said mechanism consists of at least two rotating components.
- 7. The method of claim 4, wherein said step of impregnating said at least two porous metal components with said electro-rheological substance consists of removing air from the pores of said at least two porous metal components and replacing said air with said electro-rheological substance.
- 8. A method for maintaining a homogenous film layer of a magneto-rheological substance between the components of a mechanism, said method comprising the steps of:

providing at least two porous metal components each having a porosity sufficient to receive said magneto-rheological substance within a plurality of said pores;

impregnating said at least two porous metal components with said magneto-rheological substance;

introducing a quantity of said magneto-rheological substance between said at least two porous components of said mechanism; and

applying a constant minimal modulating charge to said magnetorheological substance and said at least two porous metal components.

- 9. The method of claim 8, wherein said mechanism consists of at least two rotating components.
- 10. The method of claim 8, wherein said step of impregnating said at least two porous metal components with said magneto-rheological substance consists of removing air from the pores of said at least two porous metal components and replacing said air with said magneto-rheological substance.
- 11. A method for accelerating the binding properties of a magnetorheological substance in any mechanism, said method comprising the steps of:

providing at least two porous metal components each having a porosity sufficient to receive said magneto-rheological substance within a plurality of said pores;

impregnating said at least two porous metal components with said magneto-rheological substance;

applying a constant minimal modulating charge to said magnetorheological substance and said at least two porous metal components; and

applying a magnetic field to said magneto-rheological substance such that the binding characteristics of said magneto-rheological substance are activated.

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- 12. The method of claim 11, wherein said mechanism consists of at least two rotating components.
- 13. The method of claim 11, wherein said step of impregnating said at least two porous metal components with said magneto-rheological substance consists of removing air from the pores of said at least two porous metal components and replacing said air with said magneto-rheological substance.
- 14. A method for maintaining a quantity of an electro-rheological substance in a substantially static position in conjunction with any mechanism, said method comprising the steps of:

providing at least one porous metal component having a porosity sufficient to receive said electro-rheological substance within a plurality of said pores;

impregnating said at least one porous metal component with said electro-rheological substance; and

resisting the movement of said electro-rheological substance relative to said component due to outside forces acting on said electro-rheological substance by applying a constant minimal modulating charge to said electro-rheological substance and said at least one porous metal component.

- 15. The method of claim 14, wherein said mechanism consists of at least two rotating components.
- 16. The method of claim 14, wherein said step of impregnating said at least one porous metal component with said electro-rheological substance consists of removing air from the pores of said at least one porous metal component and replacing said air with said electro-rheological substance.

- 17. The method of claim 14, wherein said constant minimal modulating charge is not great enough to activate the binding characteristics of said electro-rheological substance.
- 18. A method for maintaining a homogenous film layer of an electrorheological substance between the components of a mechanism, said method comprising the steps of:

providing at least two porous metal components each having a porosity sufficient to receive said electro-rheological substance within a plurality of said pores;

impregnating said at least two porous metal components with said electro-rheological substance;

introducing a quantity of said electro-rheological substance between said at least two porous components of said mechanism; and

applying a constant minimal modulating charge to said electrorheological substance and said at least two porous metal components.

- 19. The method of claim 18, wherein said mechanism consists of at least two rotating components.
- 20. The method of claim 18, wherein said step of impregnating said at least two porous metal components with said electro-rheological substance consists of removing air from the pores of said at least two porous metal components and replacing said air with said electro-rheological substance.
- 21. The method of claim 18, wherein said constant minimal modulating charge is not great enough to activate the binding characteristics of said electro-rheological substance.

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